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Georgia Institute of Technology
School of Civil and Environmental Engineering
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M.S. Independent Research Study:

Partnering on Small Construction Projects

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INTRODUCTION

This investigation will address the possibility that partnering concepts are underutilized in small government projects. If Government Contracting Officers utilized partnering concepts on small construction projects, there could be a potential for saving millions of dollars annually. The primary objective of this report is to inform Contracting Officers of the benefits of partnering on small construction projects. Small projects will be considered to have a value of less than $3 million, mid-size projects range from $3 million to $10 million, and large projects will be considered to have a value greater than $10 million. The report will highlight the partnering practices of the United States Army Corps of Engineers in regard to small projects, while also serving as a primer for the implementation of partnering.

BACKGROUND

The traditional method of managing construction projects is an adversarial method. The many parties involved are each working to fulfill their own goals. The principle parties involved in a construction project are: owner, contractor, designer, and on some projects major subcontractors and material suppliers can also play a major role. The traditional method of managing construction projects does not create opportunities for the parties involved in the construction project to find common goals. Communication between the principle parties is often weak.

The adversarial attitudes, the lack of communication and the legal posturing involved with the traditional method of construction management creates great inefficiency in the construction industry. The traditional method of management produces projects that are often less ideally suited for the owners, more expensive, and behind schedule. The situation is costly to both the contractor and the owner.

A better method of managing construction projects is partnering. Partnering is an attitude that fosters the development of a win-win relationship. The parties involved recognize that they have common goals that can be achieved through cooperation as well as open

and honest communication. Partnering is an organized effort to improve communications in design and construction projects. Partnering attempts to resolve conflicts before they escalate to claims or litigation. The Construction Industry Institute defines partnering in the following manner ("In Search" 1991):

> a long term commitment between two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant's resources. This requires changing traditional relationships to a shared culture without regard to organizational boundaries. The relationship is based upon trust, dedication to common goals, and an understanding of each other's individual expectations and values. Expected benefits include improved efficiency and cost effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services.

The regulatory requirements under which federal agencies must operate preclude the establishment of long term relationships between the agency and the contractor. However, the concept of partnering was pioneered by the United States Army Corps of Engineers. The Corps of Engineers defines partnering as the creation of a relationship between the owner and the contractor for the achievement of mutually beneficial goals (Edelman et al. 1991). It is important to note that partnering is not a contractual agreement and does not create any legally enforceable rights or duties (Edelman et al. 1991). The proper use of partnering reduces the adversarial relationship between the owner, designer, and contractor.

Basic Partnering Procedure

The first step in developing a partnering agreement is to determine if the contractor is willing to participate in a partnering arrangement. Partnering will not be successful if one of the parties is forced to participate. Partnering also needs the support of top management in both organizations. The top management in the contracting agency should

contact the top management in the contractor's organization to propose the partnering arrangement.

Once the contractor has agreed to participate in a partnering arrangement the next step is to identify the members to participate in the scaled down partnering workshop. Anyone who could damage the agreement in the future should be included in the initial partnering workshop. If people have had input in the development of the partnering agreement, they are much more likely to support and abide by the agreement. The principle participants should be the government Project Manager, the government Inspector, the contractor's Project Manager, and the contractor's superintendent. Other people who could be included are the Public Works Officer, a representative from the user, a project manager from major subcontractors, and a representative from major material suppliers. Groups with between 5 and 15 members are often the most effective (Schultzel and Unruh 1996). Therefore, it is important that only pertinent representatives from the list above are included.

The partnering workshop should be conducted as soon after contract award as practical. The government's project manager should assume the responsibility for planning and coordinating the partnering process. The government project manager should determine if the contractor's project manager wants to assist with the preparations for the partnering workshop. This would not be a necessity, but the offer should be made to represent the true desire of partnering. The goals of the partnering workshop are to help the project team establish open and honest communication, develop a team spirit, and to develop the partnering charter. When the partnering workshop begins the first step would simply be for everyone to introduce themselves. The facilitator would then discuss the goals of the partnering workshop, and the concepts of partnering with the workshop participants. Edelman, Carr, and Lancaster, (1991) suggest that the facilitator discuss the concepts of principled negotiation, where solutions that serve the interest of both parties are sought.

One of the major accomplishments of the partnering workshop will be the completion of the partnering charter. The partnering charter will be written by a consensus of all the members of the project team. The charter should have a defined mission statement and objectives that will provide a means of measuring success. Once the agreement is completed the team members will each sign it. The partnering charter should be displayed in the field office. The signed charter will serve as a symbol of the teams commitment to meeting their goals. See Appendix A for a sample charter.

One of the last activities for the team would be to determine the frequency for holding follow up meetings. Which are important to assess the team's performance. The follow up meetings also aid the effort of open communication. If the parties involved in the project develop a good working relationship early in the construction process, they are more likely to discuss concerns before they require expensive rework or before they become disputes. The atmosphere of open communication will assist the government and the contractor in achieving their goals of a project completed on time and within budget.

Partnering on Large Projects

The Federal Government generally awards construction contracts on a competitive low-bid basis. Projects partnered in the low-bid environment can still outperform non-partnered projects (Larson 1995). Many government agencies use partnering concepts very successfully on large projects. Most partnering projects begin with the owner and the contractor sharing the cost of hiring a facilitator to help develop a partnering agreement. In the process of developing the partnering agreement, the facilitator also explains the general concepts of partnering and how and what partnering should accomplish. The facilitator also leads the parties involved in some team building exercises. There are many examples where the use of partnering on large projects has reduced the claims cost and time delays as well as increasing the value engineering savings. Two sets of data gathered by other researchers in recent years is useful in supporting these facts. In both of the investigations partnered and non-partnered projects were evaluated based on the criteria of cost change, duration change, change order cost, claims cost and value engineering

savings. One of the research projects only looked at Corps of Engineers projects and one study only looked at projects completed by Naval Facilities Engineering Command (NAVFAC). Table 1 summarizes the results of a study of 16 partnered and 28 non-partnered Corps of Engineers projects (Weston and Gibson 1993). Table 2 summarizes the results of a study of 39 partnered and 100 non-partnered NAVFAC projects (Schmader 1994).

TABLE 1. Corps of Engineers Project Performance Comparison (Weston and Gibson 1993)

Mean Criterion	Partnered N=16	Non-partnered N=28
% Cost Change	2.72	8.75
% Duration Change	9.07	15.53
% Change Orders	3.89	7.74
% Claims Cost	0.67	5.01
% Value Eng. Savings	0.73	0.05
Mean Contract award price	$10,368,643	$11,448,745

TABLE 2. NAVFAC Project Performance Comparison (Schmader 1994)

Mean Criterion	Partnered N=39	Non-partnered N=100
% Cost Change	11.20	9.79
% Duration Change	13.54	25.93
% Change Orders	11.34	9.38
% Claims Cost	0.04	0.57
% Value Eng. Savings	0.17	0.01
Mean Contract award price	$11,190,681	$4,887,601

Comparison of the data in Tables 1 and 2 revels some differences between the Corps of Engineers data and the NAVFAC data in terms of cost change and change order cost. However, the data in both Table 1 and 2 indicates that partnering is the best alternative for large public projects in terms of claims cost, duration change and value engineering savings. The data in Tables 1 and 2 indicates that partnering appears to provide the greatest benefit in the area of duration change. This is consistent with the findings of

Pocock and Liu (1996) who found that partnered projects show less schedule growth than do traditional projects.

Partnering on Small Projects

The use of partnering is not as common on small construction projects. However, small projects suffer from many of the same problems as large projects. Conflicts and other problems on small construction projects can be compounded by the fact that the contractors are smaller, with less experience, and fewer resources available to them than the contractors who work on large projects. Edelman, Carr, and Lancaster (1991) have found that the benefits of successful partnering relationships include improved communication, increased quality and efficiency, on-time performance, improved long term relationships, and a fair profit and prompt payment for the contractor. Despite the recognized benefits of partnering most small to mid size projects are still managed under the traditional method of construction management.

Although quantitative comparisons of small partnered projects with small non-partnered projects are not readily available, given the basic similarities of construction projects regardless of dollar value, the benefits realized from partnering on large projects should be realized on small partnered projects. The Corps of Engineer's policy is now to develop, promote, and practice partnering on all contracts (Podziba, 1995). Many companies have not tracked the results of their partnering efforts, they conclude partnering is paying off because of the reduced adversity and the fact that the work is more enjoyable (Wilson, Songer and Diekmann 1995). The Corps of Engineers has published case studies from a number of their partnering efforts on small projects. One of the most notable was the partnering effort on the Drayton Hall Streambank Protection Project. The project was valued at only $189,625. Yet both the user and the contractor felt that the partnering workshop was of great value. The attitudes and relationships built during the workshop led to the efficient resolution of problems that arose during construction (Podziba 1994).

Informal Partnering

Partnering is widely accepted as a useful technique on construction projects. The parties involved usually share the expenses involved. Which explains why formal partnering is usually reserved for larger projects. However, smaller construction projects suffer from the same adversarial relationships as larger projects. On smaller construction projects it may not be economically feasible to have the principle parties spend several days in a partnering workshop, or even to hire a facilitator to conduct the partnering workshop. But if government Contracting Officers were more familiar with the principles of partnering, it would be possible to implement an informal version of partnering. The use of informal partnering is recommended for small projects when the project owners are experienced in the construction industry (Schultzel and Unruh 1996).

The main difference between formal and informal partnering is that informal partnering does not use a third party facilitator. With informal partnering the team development occurs as a part of the project management ("Partnering Implementation" 1996). An informal partnering agreement would have the same look as a more formal partnering agreement. The informal version of partnering would only have a short workshop, perhaps half a day, and would be facilitated by a government representative from the Contract Office issuing the contract. It would be best to have a facilitator who was not directly involved in the project. If the Contracting Office issuing the contract did not have anyone available they could request assistance from another Contracting Office. Larson (1995) found that forms of informal partnering are superior to the traditional method of managing construction projects in terms of meeting schedules, controlling costs, meeting customer needs and avoiding litigation. See Appendix B for a guide to informal partnering.

CONCLUSION

The reduction in schedule growth and claims costs along with the increase in value engineering savings support the use of partnering. Although partnering has been successful on large construction projects for a number of years, the Corps of Engineers

has only recently began supporting the use of partnering on small construction projects. Since smaller construction projects do not always have sufficient funding to conduct a formal partnering effort, this paper has outlined an informal option which can be done inexpensively. The use of informal partnering on small construction projects would be most appropriate for projects that have a duration of at least 6 months and where schedule growth is a concern.

Partnering on small projects is a relatively new practice, resulting in most of the descriptions of partnering on small projects being in qualitative terms. Many companies conclude partnering is paying off because of the reduced adversity and the fact that the work is more enjoyable. Although the signed partnering agreement is not contractually binding, it serves as a visible reminder to all parties of their commitment to a successful project.

RECOMMENDATIONS

The following recommendations are made in the area of partnering on small public projects:

- Federal Agencies should follow the Corps of Engineers lead and take a more proactive role in training their employees on partnering and in providing their support of partnering on construction projects regardless of size.
- A quantitative analysis should be made between small partnered projects and small non-partnered projects.
- Projects valued at less than $3 million should be evaluated to determine if informal partnering would benefit the project.

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APPENDIX A

Sample Partnering Charter

88th Civil Engineer Group

US Army Corps of Engineers
Louisville District

Mark Beachler Associates, Inc

DEFENSE LOGISTICS AGENCY

Heapy Engineering

D/CAT-30
PARTNERING AGREEMENT
(Design/Construction Action Team-Building 30)

We, the D CAT - 30 Partners, (Design/Construction Action Team - Building 30), through trust, honesty, professional respect and cooperation, dedicate ourselves to working as a team to accomplish the following goals:

1. Complete Building 30 rehabilitation providing a safe, quality, aesthetically pleasing and functional facility which meets the needs of the users.
2. Complete the project on/before 30 November, 1996, within budget, with fair and reasonable profit to design and construction contractors.
3. Maintain full and open communication between team members to foster mutual respect among the parties.
4. Resolve issues at the lowest appropriate level.
5. Explore innovative methods to expdite design/construction.
6. Minimize changes after the 30% design review.
7. Develop plans for asbestos and lead paint abatement and demolition by the 60% design stage.
8. Develop clear, complete and concise contract documents.
9. Preserve the partnership by adding partnering to the agenda of all scheduled meetings.
10. CELEBRATE OUR SUCCESS!

APPENDIX B

Guide to Informal Partnering on Small Projects

Guide to Informal Partnering on Small Projects:

1. **Determine if the project is appropriate for informal partnering.** A positive response to the following questions is a good indication that the project is suited for informal partnering:

    a. Is there support from top management in the government organization?
    b. Does the project have a duration of at least 6 months?
    c. Is the project under $3 million, and free of unusual design elements?

    Projects between $3 million and $10 million may also be suited for informal partnering if the parties involved have had previous partnering experience and there are no unusual design elements on the project.

2. **Ensure contractor is willing to participate.** Partnering will not work if someone is forced to participate. Send a letter to the Contractor's Chief Executive Office and Project Manager. The letter should briefly explain the partnering process and ask if they are willing to participate in a partnering arrangement. The partnering effort will not work without the support of top management in both the government organization and the contractor's organization.

3. **Choose a facilitator.** The facilitator's primary objective should be to help the team reach a consensus during the partnering workshop. For this reason it is best to select a government representative who will not be involved in the administration of the contract.

4. **Determine who should attend the partnering workshop.** People will be more likely to support the partnering charter if they have helped develop it. Therefore, it is important to have anyone who could later damage the agreement be present during the partnering workshop. Partnering workshops generally work best with between 5 and 15 members. The workshop should not have more than 24 members.

5. **Schedule the partnering workshop.** The partnering workshop should be scheduled as soon after contract award as possible. Informal partnering workshops are often held at the job site to keep costs to a minimum.

6. **Select and provide read-ahead materials.** The partnering workshop will achieve the greatest benefit if everyone attending has been furnished with appropriate read-ahead material. This should include an introduction to the partnering concept, background information on the topics to be covered by the facilitator, and advance notice to start thinking about what they want to achieve.

7. **Set the agenda and hold the workshop.** It is important to ensure that the partnering workshop is well planed to prevent the workshop from becoming just another pre-

construction conference. The following agenda is useful for a half day informal partnering workshop for a small project (Podziba, 1995):

a. Self-introductions
b. Review of the project
c. Review of the partnering process by the facilitator
d. State individual and team goals
e. Define success through group discussion
f. Identify potential problems
g. Identify solutions to the problems
h. Develop and sign a group partnering charter

8. Hold Follow Up Meetings

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